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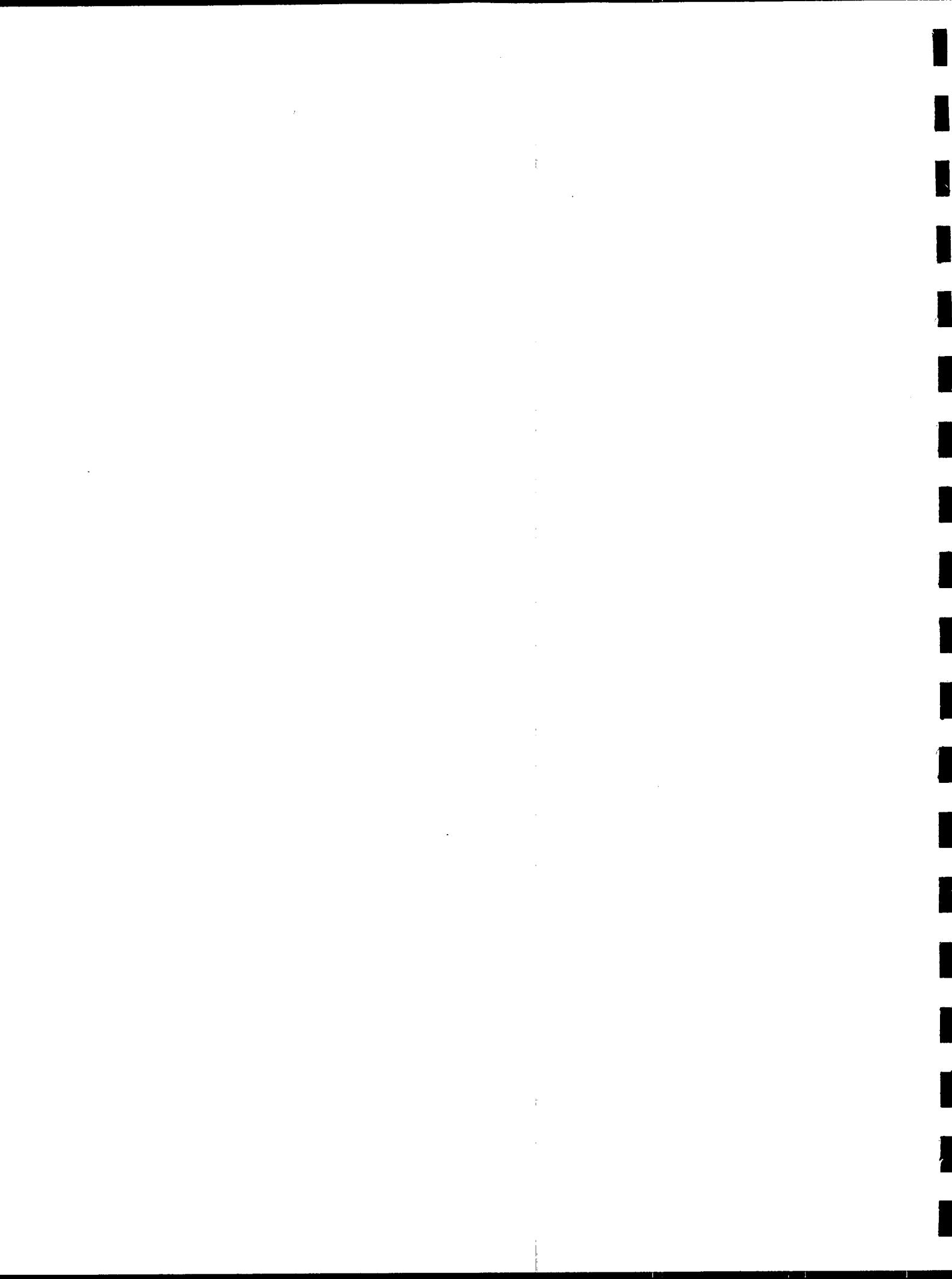
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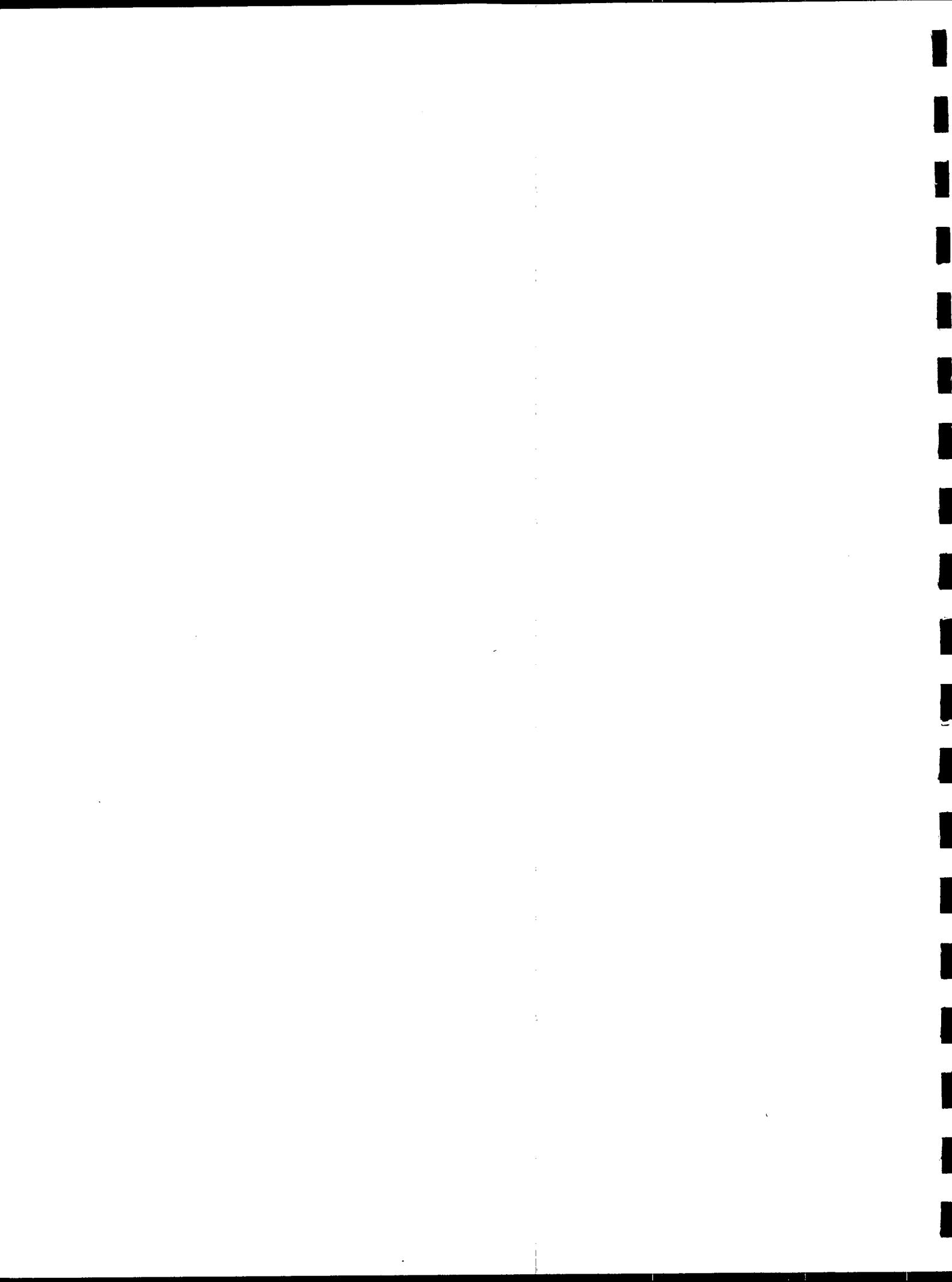


APPENDIX I

**Striped Bass Ichthyoplankton Data from Surface Tows by the
Maryland Fisheries Administration in the
Nanticoke River**



This data was collected by the Maryland Fisheries Administration in the Nanticoke River primarily under the direction of Joe Boone. A .5m diameter net with 28 x 50 mesh/inch was deployed from the stern with enough tow rope to cause the top of the net to be just below the surface. Tows were always made into the tide in the center of the channel for a duration of two minutes. The data shown here are a summary prepared from the files of the Fisheries Administration.



PLANKTON STATIONS

Nanticoke River

<u>Station Numbers</u>	<u>Nautical Miles Above Mouth</u>	<u>Additional Reference Points</u>
1	6	Mid-river between Newfoundland Point and Bivalve
2	8	Opposite mouth of Jacks Creek
3	10	200 yds above Dorman Ditch
4	12	Off Penknife Point
5	14	Off Lewis Landing
6	16	700 yds above Athaloo Lodge
7	18	500 yds above Butlers Beach
8	20	Vienna Bridge
9	22	Off Grimes Creek
10	24	0.3 miles below Marshyhope Creek
11	26	Sharptown Bridge
12	26	2 nautical miles up Marshyhope Creek
12A	27	200 yds above Wheatleys Wharf (Md)
13	28	0.6 miles above Delaware Line
14	29	Mouth of Broad Creek
15	30	150 yds above No. 56 Light
16	31	300 yds below Woodland Ferry
17	32	150 yds above No. 62 Light
18	33	200 yds above No. 66 Light
19	34	150 yds above No. 70 Light

1961

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 9		-	-	5	-	-	0
12		0	10	0	0	0	0
19		33	264	11	0	0	0
20		-	4	16	-	0	0
25		20	9	0	0	0	0
26		161	1	0	1	0	0
27		148	1	0	1	0	0
28		23	74	7	2	1	0
May 1		98	44	0	1	2	0
2		55	267	130	1	5	0
3		21	62	74	0	0	0
5		7	82	45	0	25	1
6		64	103	86	1	2	0
8		11	68	14	5	14	2
8		-	-	0	-	-	1
10		27	7	2	5	4	5
11		28	11	9	22	5	0
15		0	4	15	0	1	2
16		0	6	0	0	0	1
17		1	4	2	0	1	1
18		0	21	34	0	0	1
19		1	2	10	0	0	0
22		0	0	10	0	0	24
29		0	0	0	0	0	0
31		0	0	0	0	8	0
Jun 4		0	0	1	0	0	1
5		0	1	0	3	27	5

1963

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Mar 25		0	-	0	0	-	0
26		0	0	0	0	0	0
27		0	0	0	0	0	0
28		0	0	0	0	0	0
29		0	0	0	0	0	0
Apr 1		1	25	1	0	0	0
2		22	85	12	0	0	0
3		19	38	3	0	0	0
5		43	195	29	0	3	0
6		-	66	0	-	0	0
7		-	567	310	-	2	0
8		58	205	204	6	2	1
9		52	266	69	0	0	0
11		41	19	2	2	0	0
12		21	129	4	5	11	5
13		20	44	22	2	39	3
15		80	166	167	3	6	0
16		116	23	13	0	0	0
17		7	34	109	0	1	2
18		13	35	16	0	0	0
19		22	-	2	0	2	0
22		174	254	42	10	4	0
23		-	75	1	-	6	0
25		9	24	9	0	16	23
26		0	54	6	0	39	125
29		21	24	189	1	0	2
May 3		0	11	2	0	6	0
4		0	344	2	0	9	2
6		73	174	120	0	0	0
7		-	173	-	-	8	-
8		32	57	90	0	5	3
9		14	51	116	0	3	4
10		18	24	25	0	1	16
11		15	53	60	0	1	14
13		0	17	9	0	1	21
14		4	10	24	0	0	0
15		0	1	33	0	1	10
16		0	2	13	0	2	1
17		1	-	7	0	-	0
18		1	5	0	0	0	0
20		6	5	0	1	1	17
21		0	3	18	0	1	0
22		0	6	15	0	0	0

1963 (Continued)

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
May 23		0	6	17	0	0	0
24		-	2	-	-	0	-
25		0	0	0	0	0	1
26		0	0	0	0	0	0
27		2	9	2	0	0	0
28		3	1	0	2	0	0
29		0	-	-	0	-	-
30		0	0	0	0	0	1
31		0	0	-	0	0	-
Jun 1		0	0	0	0	0	0
4		-	0	0	-	0	0
5		-	0	0	-	0	0
6		1	2	0	0	0	0
7		0	0	0	0	1	0
8		0	4	1	0	0	0
10		0	0	0	0	0	0
12		0	0	0	0	0	0
13		0	-	0	0	-	0

1964

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Mar 25		0	0	0	0	0	0
26	-	0	0	0	-	0	0
27	0	0	0	0	0	0	0
28	0	2	0	0	0	0	0
31	6	13	0	0	0	0	0
Apr 1	6	9	20	0	0	0	0
2	-	20	7	-	0	0	0
4	3	0	0	0	0	0	0
6	-	-	0	-	-	0	0
7	-	0	0	-	0	0	0
8	4	17	0	0	0	0	0
10	9	0	0	0	0	0	0
11	-	18	29	-	0	0	0
13	13	132	58	0	0	0	0
15	72	240	39	0	0	0	0
16	93	188	90	1	1	0	0
17	86	89	17	7	5	0	0
18	19	65	74	5	4	1	0
20	102	1243	74	5	9	0	0
22	10	19	7	2	5	0	0
23	0	2	0	97	0	0	0
24	0	2	12	0	0	11	0
25	40	37	3	10	2	0	0
27	10	8	0	2	0	0	0
28	7	32	0	3	2	0	0
29	13	81	45	1	5	0	0
30	-	6	1	-	2	1	0
May 2	7	11	0	2	5	4	0
4	82	14	12	1	0	0	0
5	0	4	2	5	12	0	0
6			0			0	0
7	3	31	4	0	4	0	0
8	9	34	3	0	3	4	0
9	4	39	78	0	1	1	0
11	4	21	22	1	1	0	0
12	0	10	38	0	0	9	0
13	1	15	0	0	0	0	0
14	1	7	4	0	0	5	0
15	5	0	5	0	0	0	0
16	0	3	3	0	0	0	0
18	1	0	1	0	0	0	0
19	3	1	2	0	0	0	0
21	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0
26	0	0	1	0	0	0	0
27	0	2	0	0	0	0	0
28	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0

1965

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 16			25	3		0	0
	19	7	44		0	0	
	20	24	98	35	0	0	0
	21	27	109	71	1	0	1
	22	3	3	1	0	0	0
	23	14	98	48	0	1	0
	26	7	41	4	0	0	0
	27	12	12	1	0	6	0
	28	4	296	4	0	4	0
	29		20	4		0	0
May	30	4	13		0	0	
	3	49	1770		0	5	
	4	29	1375	147	8	29	2
	5	345	53	7	9	2	0
	6	66	520	47	0	29	4
	7	24	65	29	5	103	3
	10	10	122	6	0	6	0
	11	3	50	24	0	5	3
	12	21	48	33	0	3	14
	13	3	7	11	0	4	8
	14	5	17	8	0	4	7
	15	5	4		0	0	
	19	1	3		0	0	
	21			0		0	

1966

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 6				42			
8		8	12	14			
9		1	1	7			
11		0	2	98			
14		0	2	9			
15		0	24	24			
16		0	5	9			
18		1	46	65			
19		2	282	14			
20		10	340	111			
21		11	389				
22		173	344	28			
23		372	3842	147			
25		17	1984	34			
26		147	8895	314			
29		0	131	7			
May 3		12	-	20			
4		11	375	0			
5		14	-	8			
7		9	596	60			
9		52	20	21			
11		1	30	3			
12		0	5	5			
18		9	64	8			
20		0	0	23			
21			46	3			
26		1	0	0			

1967

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 4		0	8	11	0	0	0
5		0	12	19	0	0	0
7		2	13	16	0	0	0
11		4	77	120	0	2	2
12		64	88		0	0	
14		3	266	6	0	0	0
17			6874	431		0	0
18		22	340	2072	0	0	4
21		0	29	2	1	29	1
26		5	70	152	0	27	71
27			1437	25		34	1
29		3	16	59	0	0	2
May 1			332	19		2	0
2		8	125	1075	0	0	0
5		0	0	4	0	0	1
8		2	11	53	0	0	1
9		3	37	19	0	0	4
12		10	11	0	0	0	0
15		6	22	0	0	2	0
16		2	11	16	0	6	0
19		3	4	2	0	0	0
22		0	26	27	0	11	1
23		5	4	1	0	8	0
29		11	21	17	0	8	0
30		7	7	24	0	0	0
Jun 5		0	2	3	0	0	1
6		0	2	1	0	1	0
12		0	1	0	0	0	4
13		0	0	0	0	0	0

1968

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 2		22	322	27	0	0	0
3		73	130	9	2	0	0
4		3	173	58	0	4	1
9		94	1029	30	1	1	2
10		218	4090	60	6	53	0
15		89	2580	2689	2	500	38
16		1003	257	71	59	10	1
19		117	334	26	26	26	4
20		15	1318	258	91	561	2
22			84	9		86	13
23		1			0		
24		8			0		
29		4	42	85	0	12	0
30		2	79	21	0	1	0
May 3		6	8	3	0	0	0
4		16	3	8	0	0	1
8		0	1	13	0	0	1
9			0	16	0	0	1
10		30	42		0	0	
13			13			9	
16		0	7	7	0	0	2
17			10		0	0	
21		0	0	1	0	0	0
22		0	1	2	0	0	0
23			0	0	0	0	0
24		0	0	2	0	0	0
28		0	0	0	0	0	0
29		1	0	0	0	5	0
Jun 4		0	3	0	0	0	0
5		0	0	1	0	0	0
13		0	0	1	0	0	0

1969

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Mar	27		0			0	
	28	0	0	0	0	0	0
	29		0	0		0	0
	31	0	0	0	0	0	0
Apr	1	0			0		
	4	1	0	0	0	0	0
	5	0			0		
	7	2	34	99	0	0	0
	8		33	61		0	0
	9			209			1
	10	2	275		0	1	
	11	265	8208	141	3	9	0
	12	102	438	107	29	5	2
	14	84	533	5	0	38	0
	15	250	3072	31	1	0	0
May	17	41		964	1		0
	19	743	113	12	3	0	2
	21	0	26	0	0	49	7
	23			1			0
	25	0	0	2	0	0	6
	28	0	232	78	0	0	5
	30	8	49	4	0	2	0
	2		15			4	
	3	9	110		0	18	
	5	5	19	9	0	1	0
Jun	7	5	13	70	0	2	6
	9	0	0	1	0	6	1
	12	0	0	2	0	0	0
	14	1	0	0	0	0	0
	16	0	0	0	0	0	0
	20		2	0		0	0
	22	3	0	0	0	0	0
	23	0	2	0	0	0	1
	26	1		0	0		0
	27		0			0	
	29		0	2		0	0
	30		0	0		0	0
Jun	3	0	0	0	0	0	0

1970

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 4		0	0	0	0	0	0
6			0	0		0	0
8		0	0	0	0	0	0
9		0	2	0	0	0	0
10			0	0		0	0
13		62	60	8	0	0	0
15		4	12	6	0	0	0
16		6	35	0	0	0	0
17		23	14	23	0	0	0
18		23	9	14	0	0	0
20			384			0	
22		14	5	51	0	0	1
23		261	391	76	0	1	0
27		68	530	60	0	0	0
29		97	95	0	0	1	0
May 1		3	37	73	0	3	5
5		4	17	4	0	3	0
15			12	0		4	3
18		0	0	0	0	0	0
21		0	0	0	0	0	0
22		0	0	0	0	0	0
Jun 2		0	0	0	0	0	0
3			0	0		0	0
5		0	0	0	0	0	0

1971

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 5			3	-		-	-
7		3	10	29	-	-	-
9		2	-	4	-	-	-
12		-	2	-	-	-	-
14		57	200	315	-	-	-
16		3	131	7	-	-	-
17		8	-	10	-	-	-
19		24	88	-	-	-	-
21		-	3	2	-	-	-
23		-	7	21	-	-	-
24		7	-	1	1	-	-
26		-	11	2	-	-	-
29		-	4	18	-	-	-
May 1		4		6	-	-	-
3		47	198	22	-	-	-
11			3	2	-	-	4
12			13	227	-	-	4
17		-	4	-	-	7	8
18		-	2	-	-	1	-
20		-	3	2	-	3	-
21		1	-	-	-	-	1
26		-	1	1	1	3	3
27		-	-	9	-	7	1
28		-	5	-	-	-	2
Jun 2		-	-	3	-	-	-
3		-	-	-	-	-	-
8		-	-	-	-	-	-
9		-	-	-	-	-	-

1972

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 4		-	-	-	-	-	-
6		-	3	-	1	-	-
8		-	--	6	1	-	-
11		-	4	2	-	-	-
12		-	2	3	-	-	-
14			6	12		-	-
17		8	610	312	-	-	-
19		6	4	2	1	-	15
21		-	887	4971	-	3	-
25		2	32	1	-	-	-
26		-	7	2	-	8	19
28		-	19	2	-	1	-
May 2		-	2	-	1	-	-
4		1	9	3		3	-
12			-			2	
13		-	-	34	-	-	-
18		-	-		102	17	
19		-		1	-	-	
Jun 2		-		2	-	-	
9			-			-	

1973

<u>Date</u>	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Mar 30		0	0	0	1	0	0
Apr 2		0	0	0	0	0	0
4		0	34	74	1	0	0
6		5		36	1		0
9		0	127	71	0	1	0
11			164	33		1	
12		10			1		
13		1	11	8	0	0	2
16		1	2	0	0	0	0
18		417	1875	582	1	0	0
20		228	74	97	2	0	0
23		64	0	2	17	0	0
25		3	0	59	0	1	12
May 30		0	0	0	0	0	0
31			1			1	
Jun 1			7	8		0	0

1974

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr	3	0	0	0	0	0	0
	5		21			0	
	9		50	2		0	
	10		2		5		0
	12	0	3	10	1	2	0
	15	5	415	43200	1	0	0
	17	19	241	121	53	824	103
	19	0	138	373	7	30	69
	21		2	0		1	0
	23	717	273	21	16	0	1
May	25	187	21	3	59	5	0
	29	0	118	95	0	0	0
	4		0	0	0	0	0
	5		0				
	6		0	1		0	1
	7		0	0		0	0
	13		0	0		0	0
	14		1	0		0	0
	19		0			0	
	20		0			0	
	21	0		0		0	
	24	0	0	0	0	0	0
	25		9	5		0	0
	28		0	0		0	0
	29		0			0	
	30						

1975

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 9		4	0		0	0	
11		0	0	0	0	0	7
16		0	5	4	0	0	0
18		3	35	40	0	0	0
21		78	1760	4026	0	0	0
23		572	11220	24	11	3	1
25		1730	1382	62	143	202	75
30		186	49	2	156	31	10
May 2		190	2380	32	17	12	0
5		81	1638	6	52	6	0
7			12	1		0	0
13		8	15	38	0	2	4
14			10	10		4	1
16			1	2		0	0
17			1	4		1	0
20			0	20		0	0
26			0	0		0	0
27		-	-		-	-	-
30		-	-		-	-	-
Jun 1		-	-		-	-	-
2		-	-		-	-	-
4		-	-		-	-	-
9		-	-		-	-	-

1976

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Mar 30		2	11	6	0	0	0
31		1	36	-	0	0	-
Apr 2		0	4	0	0	0	0
5		0	0	0	0	0	0
8		34	17	73	0	0	0
13		1	-	1	0	-	0
14		-	13	-	-	8	-
15		5	9	-	6	2	-
19		310	2930	979	9	436	514
21		32	66	143	69	133	341
23		7	0	0	2	11	3
27		-	0	5	-	0	0
30		-	2	11	-	0	5
May 4		-	0	0	-	0	0
5		-	2	13	-	0	0
10		-	3	4	-	0	0
13		0	1		0	0	
14		16	5		3	0	
17		1	0		0	0	
20		0	0		0	0	
22			0			0	
27			0			0	
28			0			0	
Jun 5			0			0	

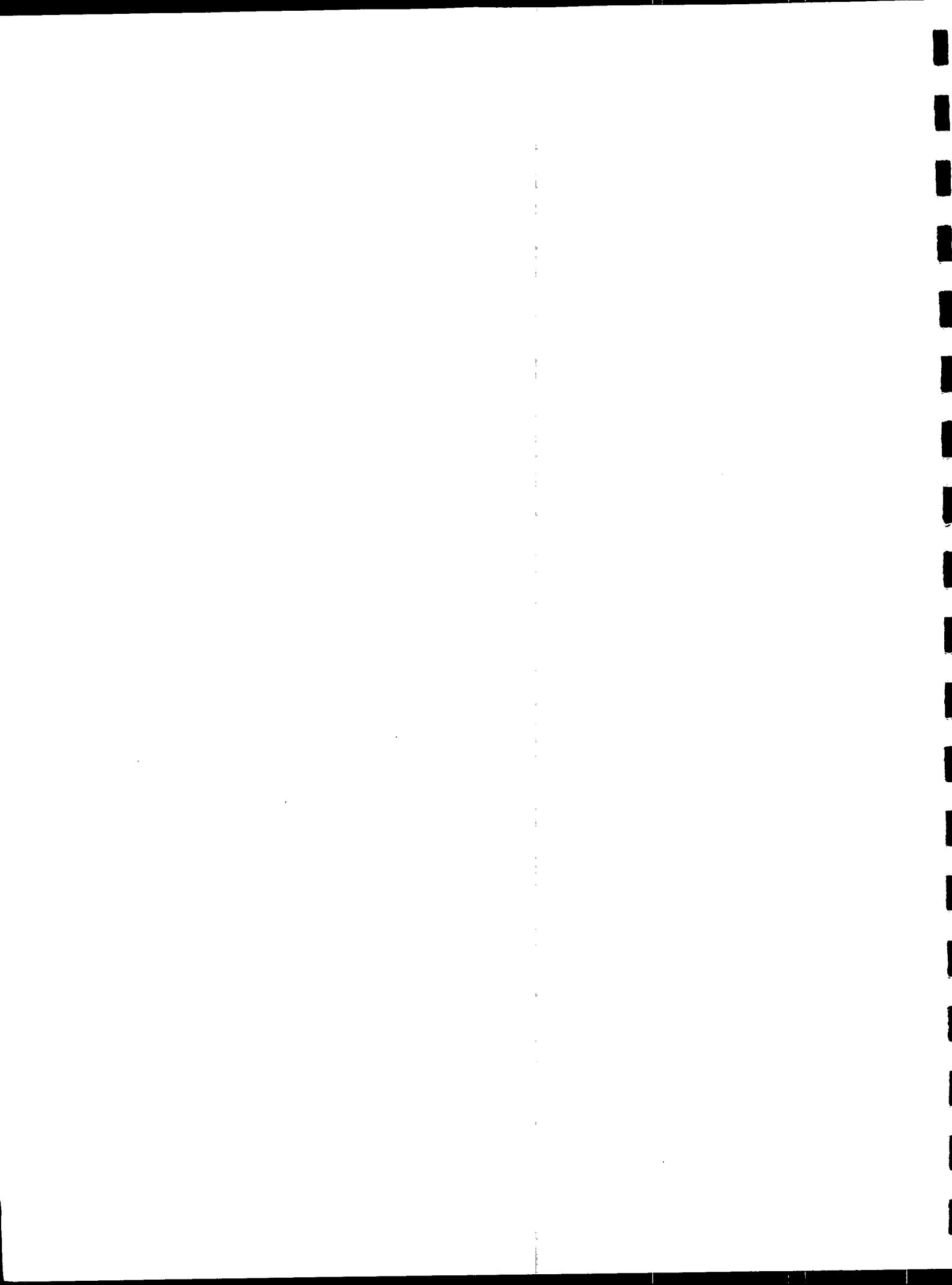
"-" = no sample

1977

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Mar 31			11	20		0	0
Apr 4		20	66	123	0	30	67
7		65	142	100	4	6	4
9		25	6	10	4	6	1
13		0	2571	3744	0	28	1
15		694	4442	5376	300	1344	756
19		13	842	760	0	7	30
26			0			0	
29		68	42	6	0	20	6
May 2			4	0		5	0
4			0	0		0	0
6		6	5	0	0	0	0
10			1	0		0	0
13		2	9	0	0	0	0
14			7	0		0	0
17		4	4	0	0	0	0
20		0	5	0	0	0	0
23			0	2		0	0
28		0	0	0	0	0	0
Jun 2			0	0		0	0

1978

Date	Station:	Eggs			Larvae		
		5	8	10	5	8	10
Apr 10		0	777	630	0	2	3
	13	513	519	92	78	88	3
	15	240	173	124	69	11	10
	21	112	199	336	6	6	31
	28	11	1	0	53	15	0
May 9	95	44	26		2	27	3
	11	5	42	11	1	6	0
	12	13	182	425	2	0	0
	15	2	14	2	2	27	2
	17	0	3	4	1	2	0
	19	2	3	2	0	7	0
	20	22	24	53	4	0	2
	23	1	1	6	0	3	0
	27	1	1	1	0	0	0
	Jun 2	0	0	0	0	0	0



Appendix II
1978 CBI Ichthyoplankton Data



I. Longitudinal distribution and abundance of fish eggs and pro-larvae
(Nanticoke River)

A. Objective: To characterize and quantify the Spring spawn
of anadromous and resident species in terms of temporal
and spacial (longitudinal) distribution.

B. Sampling Area: Roaring Point to areas approximately two
miles upstream of the Nanticoke River - Marshy Hope Creek
junction (both branches to be sampled).

C. Sampling Method:

1. 1/2 m dia., 505 μ square mesh conical nets (Nitex)
with centered flow meters.
2. Simultaneous surface (ring mounted) and bottom
(sled mounted) tows in mid-channel against flow
(ebb tide).
3. Tow volumes \approx 75 m³ to give a "minimum detectable
density" of 13 larvae/1000 m³. Net clogging will
be evaluated.

D. Sampling Locations:

1. Roaring Point
2. Boone Sta. 2, opposite Jacks Creek
3. Boone Sta. 4, off Penknife Point
4. Boone Sta. 6, above Athaloo Lodge
5. Boone Sta. 8, Vienna Bridge
6. Boone Sta. 10, juncture of Nanticoke and Marshy
Hope Creek
7. Boone Sta. 11, Sharptown Bridge
8. Boone Sta. 12, two mile up Marshy Hope Creek

E. Sampling Frequency:

1. Weekly during the daylight ebb from March 15 until
the appearance of eggs in the samples.
2. Twice weekly during both the day and night ebb
throughout the period that river herring or stripped
bass eggs and/or pro-larvae are present.

3. Weekly during the daylight ebb through October or until no more eggs or larvae are taken.

F. Other: Species composition, species abundance, egg viability (striped bass only), and length - frequency distributions (striped bass and river herring only) will be determined for the period of study. Results to support APL modeling of egg and pro-larvae entrainment.

II. Distributional studies of striped bass larvae of 8 - 20 mm std. length.

A. Objectives: To characterize the longitudinal distribution and abundance of striped bass larvae during the period when they have become unavailable to the standard 1/2 m plankton net (see Sections I, II) but have not yet become truly neustonic and moved into the nearshore habitat.

B. Sampling Area: Mid-channel of river from Jacks Creek (Boone Sta. 2) to Sharptown Bridge (Boone Sta. 11) and lower Marshy Hope Creek (Boone Sta. 12).

C. Sampling Method:

1. "Box" trawl having a mouth opening of 3 m x 3 m (9 m^2) and a 505μ square mesh liner in the cod.
2. Tows into the current (ebb tide) at bottom and surface.

D. Sampling Locations:

1. Boone Sta. 2 (Jacks Creek)
2. Boone Sta. 4 (Penknife Pt.)
3. Boone Sta. 6 (above Athaloo Lodge)
4. Boone Sta. 8 (Vienna Bridge)
5. Boone Sta. 10 (junction of Marshy Hope Creek)
6. Boone Sta. 11 (Sharpstown Bridge)
7. Boone Sta. 12 (2mi up Marshy Hope Creek)

E. Sampling Frequency:

1. Three series of two (each) day/night samplings spaced three weeks apart and initiating approximately one week after the peak spawning period (total = 4 day and 4 night samples).

2. Additional series will be added seven weeks after peak spawning if warranted.
- F. Other: If catches are sufficiently large and if there seems to be a definable pattern to spacial variation in abundance, we will conduct a cross-sectional study similar to that outlined in Section II.

Table 1

Summary of 1978 CBI Data Used in Ratio Model
 Average Surface Plus Bottom Egg Densities -
 Number/m³ Stripped Bass

Day	Station						
	2	4	6	8	10	11	12
1(3Apr)		0.	.33	4.55	.66		0.
2				1.36			
3		.22	.84	.22	0.	0.	0.
4		.24	1.16	1.58	.64	0.	0.
8	.03	4.08	3.33	50.11	.36	.48	.03
9	0.	.52	10.46	21.68	.90	.95	.03
11	.08	.77	12.49	16.50	.14	.25	0.
12	0.	.84	4.78	5.04	.06	1.06	0.
15	0.	.14	1.69	.60	.04	0.	0.
16	.03	.37	21.48	17.96	0.	0.	0.
18	.05	.52	5.05	3.24	.04	0.	0.
19	.78	.92	55.60	66.25	.19	.22	.03
24		.88	2.96	20.49	.45	.50	
29	0.	.01	8.18	10.33	.33	.04	0.
30	0.	.08	3.21	14.08	3.42	2.60	.09
37		.05	.58	1.33	.09	.22	
44	.03	.01	.06	.05	0.	.07	0.
45		0.	.05	.05	.03	0.	0.
51	.02	0.	.03	0.	.03	0.	.03
52		.05	0.	.02	.03	.05	.03
59		0.					
60							
73							
81							

Table 2
 Summary of 1978 CBI Data Used in Ratio Model
 Average of Surface Plus₃ Bottom Densities
 for all Larvae - N/m³ Stripped Bass

Day	Station						
	2	4	6	8	10	11	12
3 (5Apr)		.08	.14	0.	0.	0.	0.
4		0.	.03	0.	0.	0.	0.
8	0.	.33	.08	.27	.01	0.	0.
9	.01	0.	.62	.51	0.	0.	0.
11	.08	1.56	7.78	1.49	.02	.01	0.
12	0.	2.91	2.08	1.73	.06	.01	0.
15	0.	.94	32.48	.82	.03	0.	0.
16	.02	.96	13.23	.65	.01	0.	0.
18	0.	.20	1.24	1.00	.09	0.	0.
19	.06	.28	3.69	.42	0.	0.	0.
24		.20	1.46	9.05	.11	.21	
29	.04	.28	8.46	.90	.08	0.	0.
30	0.	.21	1.69	4.59	.09	0.	.17
37		.10	1.95	1.03	.09	.03	
44	.03	.51	3.88	.41	.09	.15	.20
45		.24	2.41	.11	.07	.01	.06
51	.02	.67	.12	.47	.48	.72	0.
52	0.	.14	.08	.33	.54	1.16	.27
59		.04	.01	.06	0.	.06	
60		.02	0.	.04	0.	0.	
73		.04	.04	0.	.01	0.	.07
81		0.	0.		0.	.07	0.

Table 3
 Summary of 1978 CBI Data Used in Ratio Model
 Sum of Surface Plus Bottom Densities for
 Larvae \leq 7.5 mm Stripped Bass

Day	Station						
	2	4	6	8	10	11	12
3(5Apr)	0.	.07	.09	0.	0.	0.	0.
4		0.	.06	0.	0.	0.	0.
8	0.	.34	.11	0.	.03	0.	0.
9	.03	0.	.96	0.	0.	0.	0.
11	.16	1.44	6.16	.44	0.	.03	0.
12	0.	1.51	.85	1.55	.08	0.	0.
15	0.	1.70	9.73	1.57	.06	0.	0.
16	.04	1.92	7.59	.62	.03	0.	0.
18	0.	.41	2.37	1.92	.18	0.	0.
19	.12	.49	6.54	0.	0.	0.	0.
24		.40	2.38	6.05	.21	.42	
29	.08	.46	6.19	1.36	.13	0.	0.
30	0.	.40	3.04	6.10	.17	0.	0.
37		.19	2.89	1.45	.12	.05	
44	.06	.87	5.17	.27	.10	.06	0.
45		.31	0.	.11	.11	0.	.03
51	.04	.33	.06	.21	.58	.22	0.
52	0.	.14	0.	.39	.44	.12	.03
59		0.	0.	.04	0.	0.	
60		.02	0.	.02	0.	0.	
73		0.	0.		0.		0.

Table 4

Summary of 1978 CBI Data Used in Ratio Model
 Sum of Surface plus Bottom Densities for
 Larvae 7.5 mm to 15.5 mm Striped Bass

Day	Station						
	2	4	6	8	10	11	12
24 (26Apr)		0.	.02	.53	0.	0.	
29	0.	.03	1.00	.14	.03	0.	0.
30	0.	0.	0.	2.15	0.	0.	
37		.02	.83	.50	.07	0.	0.
44	0.	0.	1.61	.12	0.	.24	0.
45		0.	.63	0.	.03	.03	.06
51	0.	.99	.18	.69	.22	1.07	0.
52	0.	.14	0.	.23	.30	1.94	.47
60	0.	.02	0.	.10	.13	0.	
73	0.	0.	.04	0.	0.	0.	.15

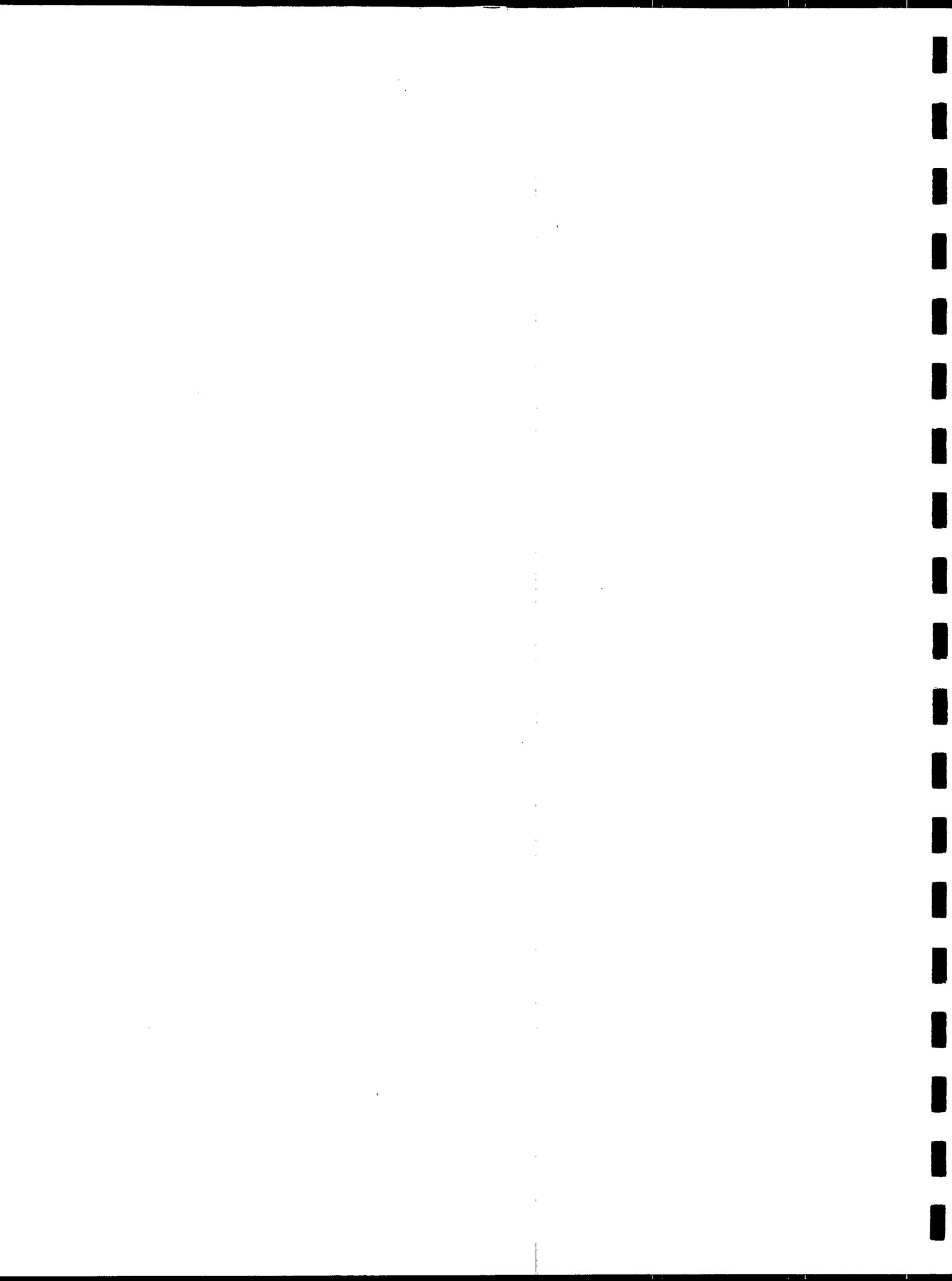
Note - All catches are zero earlier than day 24

Table 5
 Summary of 1978 CBI Data
 Striped Bass Trawl Data
 Average of Surface and Bottom Densities - N/m³

	Larvae	7.5 mm	Station		
Day	4	6	8	10	11
24 Day (26 Apr)	.08	.37	6.90	.56	.10
24 Night	.05	.41	3.70	.01	
37 Day	.13	.07	.42	.06	.18
37 Night	.12	2.02	.32	.03	surface only
59 Day	0.	.02	0.	0.	bottom only
59 Night	0.	0.	0.	.02	0. bottom only

	Larvae	7.5 mm to 15.5 mm	Station		
Day	4	6	8	10	11
24 Day (26 Apr)	.01	0.	.58	.04	0.
24 Night	0.	0.	.36	0.	
37 Day	0.	0.	.68	.02	0.
37 Night	.02	.17	.23	.03	surface only
59 Day	.12	.02	.90	.07	bottom only
59 Night	.04	.02	0.	.14	.48 bottom only

**1978 CBI Ichthyoplankton Net Data
Total Catch**



**DATA SUMMARY
NANTICOKE RIVER ICHTHYOPLANKTON
LONGITUDINAL DISTRIBUTION SERIES
TOTAL CATCH**

MARCH 22, 1978

DATA SUMMARY
NANTICOKE RIVER ICHTHYOPLANKTON
LONGITUDINAL DISTRIBUTION SERIES
TOTAL CATCH

MARCH 28, 1976

SAMPLE DEPTH	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT
TIME (EST)	1040	1040	1118	1157	1233	1233	1323	1323						
TIDE	EBB													
WEATHER	00	05	00	00	00	00	00	00	00	00	00	00	00	00
SAMPLE VOLUME (ML*3)	76	37	50	16	18	12	36	12	58	24				

PHYSICAL DATA	DEPTH (M)	T (C)	S (PPT)	R (C)	S (PPT)	T (C)	S (PPT)	R (C)	S (PPT)	T (C)	S (PPT)	R (C)	S (PPT)	T (C)
1	10.2	2.95		10.5	0.31	11.0	0.55	11.4	0.04	11.6	0.00			
2	10.2	2.96		10.5	0.31	11.0	0.55	11.3	0.04	11.6	0.00			
3	10.2	2.98		10.5	0.31	11.0	0.55	11.4	0.04	11.6	0.00			
4				10.5	0.31	11.0	0.55	11.4	0.04	11.6	0.00			
5				10.5	0.31	11.0	0.55	11.4	0.05	11.6	0.00			
6				10.5	0.31	11.0	0.55	11.4	0.05	11.6	0.00			
7				11.0	0.55	11.0	0.55	11.4	0.05	11.6	0.00			
8				11.0	0.55	11.0	0.55	11.4	0.05	11.6	0.00			
9				11.0	0.55	11.0	0.55	11.4	0.05	11.6	0.00			
10				11.0	0.55	11.0	0.55	11.4	0.05	11.6	0.00			
11				11.0	0.69	11.0	0.69	11.4	0.05	11.6	0.00			
MEAN	10.2	2.96		10.5	0.31	11.0	0.58	11.4	0.05	11.6	0.00			
H-12														

EGG DENSITIES (#/1000 ML**3)	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT
ALOSA SP.	0	0	0	0	0	0	0	0	83	0	83	0	42	
N. AMERICANA	0	0	0	0	1000	0	28	1583	0	83	0	83		

**DATA SUMMARY
NANTICOKE RIVER ICHTHYOPLANKTON
LONGITUDINAL DISTRIBUTION SERIES
TOTAL CATCH**

APRIL 3, 1978

PHYSICAL DATA	DEPTH (')	T (C)	S (PPT)								
1		12.4	0.18	12.8	0.08	13.2	0.06	13.4	0.09	13.4	0.09
2		12.4	0.18	12.8	0.09	13.2	0.06	13.4	0.09	13.4	0.13
3		12.4	0.18	12.8	0.09	13.2	0.06	13.4	0.07	13.4	0.13
4		12.4	0.18	12.9	0.08	13.2	0.06	13.4	0.07	13.4	0.13
5		12.4	0.14	12.9	0.07	13.2	0.06	13.4	0.07	13.3	0.13
6		12.4	0.14			13.2	0.06	13.5	0.06		
7						13.2	0.06	13.5	0.06		
8						13.2	0.06	13.3	0.06		
9						13.2	0.06				
H	10					13.1	0.06				

II-13

EGG DENSITIES (#/10^4 m**3)		SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT
<i>ALOSA SP.</i>													
A. SAPIDISSIMA		0	0	0	0	0	0	0	0	0	0	30	0
M. AMERICANA		1714	2700	231	0	864	0	0	263	0	0	0	0
M. SAXATILIS		0	0	192	464	1032	0	0	121	0	0	0	0
LARVAL DENSITIES (#/1000 NM**3)													
<i>ALOSA SP.</i>		0	0	0	0	29	0	0	0	0	0	0	0
M. AMERICANA		286	0	929	682	355	118	79	333	0	0	29	0
P. FLAVESCENS		0	0	0	0	97	0	579	0	0	0	0	0

**DATA SUMMARY
NANTICOKE RIVER ICHTHYOPALANKTON
LONGITUDINAL DISTRIBUTION SERIES
TOTAL CATCH**

APRIL 4, 1978 (2)

DATA SUMMARY
NANTICOKE RIVER TCHINIOPLANKTON
LONGITUDINAL DISTRIBUTION SERIES
TOTAL CATCH

APRIL 5, 1978

(3)

STATION	DEPTH	SUR	BOT	SUP	BOT								
SAMPLE DEPTH		3' FT	3' FT	2' FT	2' FT	1' FT	1' FT	0' FT					
TIME (EST)	2022	2022	2110	2110	2140	2140	2200	2200	2238	2238	2340	2302	2302
TIDE	EHB	FLOOD	EAB	FLOOD									
WEATHER	00	00	00	00	00	00	00	00	00	00	00	00	00
SAMPLE VOLUME (1000's)	44	36	32	23	33	30	15	36	34	34	40	39	37

PHYSICAL DATA	DEPTH	T	S	T	S	T	S	T	S	T	S	T	S
(')	(C)	(FPT)	(C)	(PPT)	(C)								
1	13.3	2.51	13.8	0.29	14.1	0.13	13.5	0.13	14.3	0.11	14.5	0.13	13.7
2	13.3	2.58	13.8	0.29	13.8	0.13	13.5	0.13	14.3	0.11	14.5	0.13	13.7
3	13.2	3.14	13.8	0.29	14.1	0.13	13.5	0.13	14.3	0.11	14.5	0.13	13.7
4			13.8	0.29	14.1	0.13	13.5	0.13	14.3	0.11	14.5	0.13	13.7
5			13.8	0.29	14.1	0.13	13.5	0.13	14.3	0.11	14.5	0.13	13.4
6			13.8	0.29	13.9	0.13	13.5	0.13	14.3	0.11	14.5	0.13	13.4
7			13.8	0.29	13.9	0.13	13.5	0.13	14.3	0.10	14.5	0.10	13.7
8			13.8	0.29	13.9	0.13	13.5	0.13	14.3	0.10	14.5	0.10	13.7
9			13.8	0.29	13.9	0.13	13.5	0.13	14.3	0.10	14.5	0.10	13.7
10			13.8	0.29	13.9	0.13	13.5	0.13	14.3	0.10	14.5	0.10	13.7
MEAN	13.3	2.85	13.8	0.29	14.0	0.13	13.5	0.13	14.3	0.11	14.5	0.12	13.6
SD	1.1	0.35	1.1	0.35	1.1	0.35	1.1	0.35	1.1	0.35	1.1	0.35	1.1

EGG DENSITIES (#/1000's*)	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUR	BOT	SUP	BOT
ALOSA SP.	0	0	0	0	0	0	0	0	0	0	25	0
M. AMERICANA	0	0	0	0	0	0	0	0	0	0	25	0
M. SAXATILIS	0	0	125	304	576	1100	0	444	0	0	0	0
P. FLAVESCENS	0	0	0	43	273	100	1667	5556	618	4382	3225	26
UNIDENTIFIABLE	0	0	0	0	0	0	67	0	0	0	0	0

LARVAL DENSITIES (#/1000's*)

ALOSA SP.	0	0	0	0	33	67	0	29	147	100	26	0
M. AMERICANA	45	0	625	1043	1606	2067	1667	861	294	1324	300	410
M. SAXATILIS	0	0	31	130	121	167	0	0	0	0	0	459
P. FLAVESCENS	0	0	0	43	273	100	1667	5556	618	4382	3225	26
UNIDENTIFIABLE	0	0	0	0	0	0	67	0	0	0	0	0